

## ***Indicator 2: All Work-Related Hospitalizations***

### **Significance<sup>i</sup>**

Severe occupational injuries and illnesses may result in hospitalization. This indicator describes and tracks work-related hospitalizations for the purpose of identifying high-risk occupations and targeting prevention.

### **Methods**

The Colorado Hospital Discharge Dataset (HDD) is compiled by the Colorado Hospital Association (CHA) and, through a data sharing agreement, is made available to the CDPHE. The HDD contains records of all hospital discharges from member hospitals. In Colorado, nearly 100% of hospitals are CHA members (excluding Federal facilities). Each record in the HDD represents one hospital discharge resulting from an inpatient hospital admission.

Work-related hospitalizations were identified by selecting records where workers' compensation (WC) insurance was the expected payer. Only Colorado residents age 16 and older were included for analysis. Rates were calculated using employment data from the Bureau of Labor Statistics (BLS).

---

<sup>i</sup> Council of State and Territorial Epidemiologists. *Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants*. Last updated April 2012.

## Results

**Table 2.1 Annual number and rate of work related hospitalizations, Age 16 years and older, Primary payer workers' compensation, Colorado and the United States, 2001-2011\***

Year	Number of hospital discharges (Colorado)	Annual crude rate of hospital discharges per 100,000 employed (Colorado)	Number of hospital discharges (United States)	Annual crude rate of hospital discharges per 100,000 employed (United States)
2001	2,921	132.2	173,724	128.6
2002	3,076	133.9	193,752	141.5
2003	2,865	123.1	184,986	134.3
2004	2,737	114.6	170,796	122.7
2005	2,606	108.3	169,814	119.8
2006	2,605	103.1	154,877	107.2
2007	2,622	101.3	165,441	113.3
2008	2,398	92.4	144,184	99.2
2009	2,205	87.3	Data not available	Data not available
2010	2,184	88.0	Data not available	Data not available
2011	2,104	83.9	Data not available	Data not available
<b>Average</b>	<b>2,575</b>	<b>105.5</b>	<b>169,697</b>	<b>120.8</b>

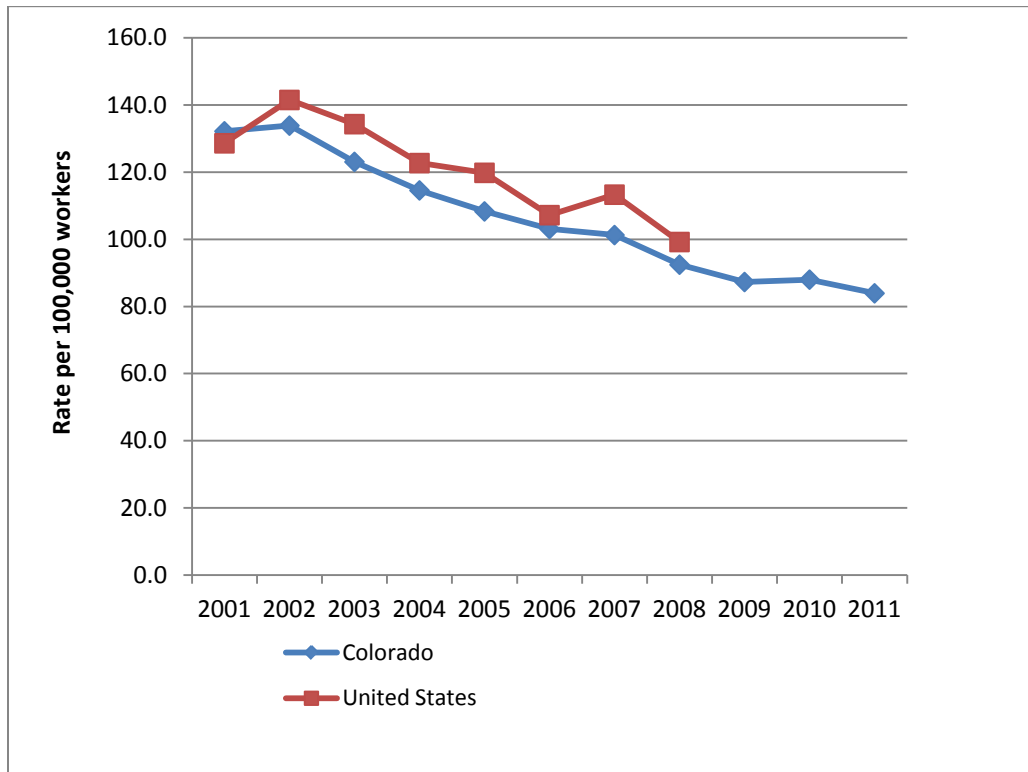
*Numerator: Colorado Hospital Association hospital discharge data analyzed by the Health Statistics Section, Colorado Department of Public Health and Environment*

*Denominator: Bureau of Labor Statistics (BLS), Geographic Profile of Employment and Unemployment (GP) and Current Population Survey (CPS)*

*United States Data: National Hospital Discharge Survey, Provided by the Council of State and Territorial Epidemiologist (CSTE) Occupational Health Indicators Reports*

*\*United States data beyond 2008 not yet available through CSTE, 2011 rate calculations are preliminary*

**Figure 2.1: Annual crude rate of work-related hospitalizations per 100,000 employed, Age 16 years and older, Colorado and the United States, 2001-2011\***



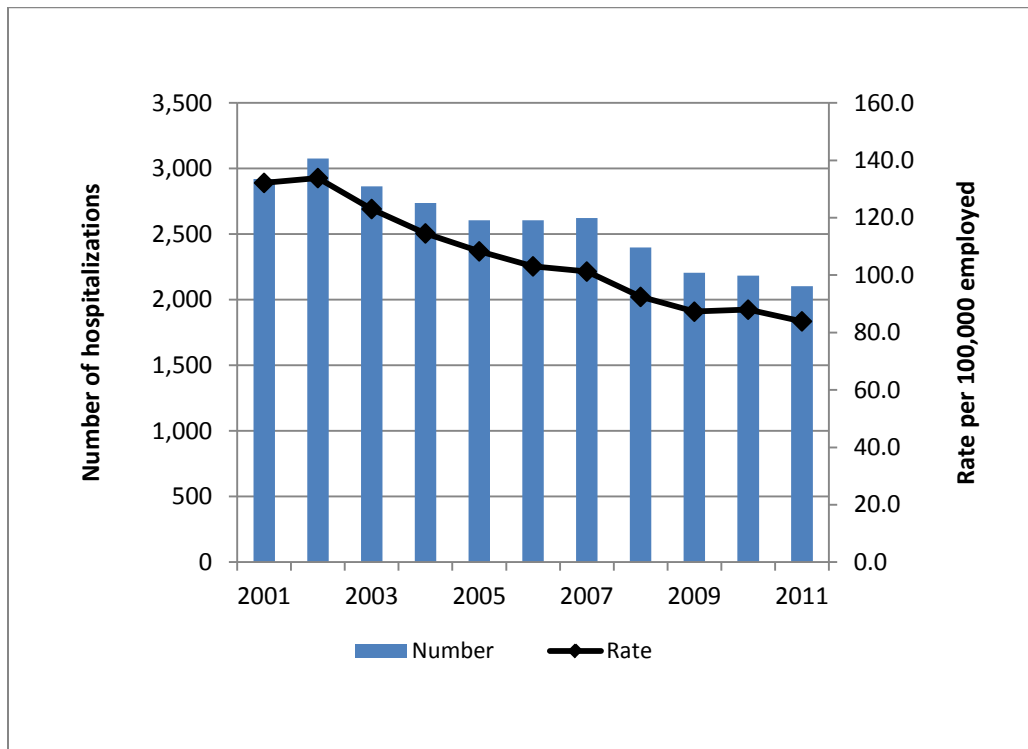
*Numerator: Colorado Hospital Association hospital discharge data analyzed by the Health Statistics Section, Colorado Department of Public Health and Environment*

*Denominator: Bureau of Labor Statistics (BLS), Geographic Profile of Employment and Unemployment (GP) and Current Population Survey (CPS)*

*United States Data: National Hospital Discharge Survey, Provided by the Council of State and Territorial Epidemiologist (CSTE) Occupational Health Indicators Reports*

*\*United States data beyond 2008 not yet available through CSTE, 2011 rate calculations are preliminary*

**Figure 2.2: Annual number and crude rate of work-related hospitalizations per 100,000 employed, Age 16 years and older, Colorado, 2001-2011\***



*Numerator: Colorado Hospital Association hospital discharge data analyzed by the Health Statistics Section, Colorado Department of Public Health and Environment*

*Denominator: Bureau of Labor Statistics (BLS), Geographic Profile of Employment and Unemployment (GP) and Current Population Survey (CPS)*

*\*2011 rate calculations are preliminary*

#### **Limitations:**

- Practice patterns and payment mechanisms may affect decisions by health care providers to hospitalize patients, to correctly diagnose work-related conditions and/or to list the condition as a discharge diagnosis.
- The true burden of work-related hospitalizations may be under-represented if workers utilize other payer sources (e.g., self-pay, private insurance).
- Colorado residents hospitalized in another state are not captured in these data. Additionally, self-employed individuals, such as farmers and independent contractors, Federal employees, railroad or long-shore and maritime workers, are not covered by state WC systems and are not captured in these data.
- Hospitalization discharge records are based on admissions, not persons, thus they may include multiple admissions for a single individual or single person-injury event.
- Work-related hospitalization data analyzed using the methods in this report are not directly comparable between states due to differences in states' WC insurance programs.

- Though United States level data are provided in this report, comparing state data to United States data should be done with caution as United States data are based on national probability estimates from state-level data, and WC insurance programs vary from state to state.

**Recommendations and Next Steps:**

- Evaluate existing hospitalization data available to the CDPHE to describe work-related injuries and illnesses in Colorado by age, gender, race/ethnicity and type of injury/illness.<sup>ii</sup>
- Continue to explore opportunities to link hospitalization data with other health and employment data to obtain information on industries and occupations associated with serious injuries/illnesses. The CDPHE should explore updating its data use agreement with the CHA for permission to link identified hospitalization data with existing state WC data available to CDPHE. In addition, CHA emergency department (ED) data were available to CDPHE starting in 2011. These data should be analyzed to describe work-related emergency visits.
- By conducting more detailed analyses as described, identify the worker characteristics or risk factors that most contribute to work-related hospitalizations to guide intervention, education and prevention efforts.
- Better define other issues that may affect hospitalization data patterns, such as whether there is an overall increase or decrease in non-work-related hospitalizations in Colorado.

---

<sup>ii</sup> The Occupational Health and Safety Surveillance Program is currently working to publish an expanded analysis of these data.